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Confirmation		}	EFS-Web electronic filing system.
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Application		}	
No.:	10/603,528	}	<u>/Steve Wills/</u>
		}	(Signature)
Title:	INTERNAL COMBUSTION	}	
	ENGINE PISTON	}	<i>J. Stephen Wills</i>
		}	(Printed Name)
Inventor:	Quigley et al.	}	
		}	
Filing Date:	June 25, 2003	}	
		}	
Attorney		}	
Docket No:	CECO-00019	}	
		}	
Examiner:	John Kwon	}	

**REPLY UNDER 37 CFR § 41.41**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This reply to the Examiner's Answer mailed September 1, 2009, is respectfully  
submitted in accordance with 37 CFR § 41.41 and MPEP § 1208.

## Remarks

All arguments presented in the Appeal Brief are re-asserted herein. The following comments address specific arguments presented in the Examiner's Answer (Answer).

### The Answer on page 5, last partial paragraph, states:

Appellants argues that Gaiser (US 6 539 910) does not teach the use of the "sidewall portion extended **parallel** to the center line" because Gaiser shows the sidewall **substantially parallel** to the center line. Appellants further argues that the scope of words "substantially parallel" and "parallel..." should be the same in this instant invention although appellants tried to overcome the prior art by eliminating the word "substantial."

This statement misrepresents the position of the Appellants. The Appellants clearly state that Gaiser does not disclose either "parallel" or "substantially parallel". For example, "... the embodiments illustrated in the present application are parallel or close to parallel, *while the embodiments illustrated in Gaiser are significantly not-parallel.*" See the Appeal Brief at page 9, first partial paragraph, emphasis added.

Further, Appellants have not amended the present application to remove the word "substantially" to overcome the prior art. Appellants assert that the presented references do not disclose either "parallel" or "substantially parallel" and therefore claim 42 is not amended to remove "substantially" for the purpose of overcoming the prior art.

Further, Appellants have not argued that "the scope of words 'substantially parallel' and 'parallel...' should be the same in this instant invention." This statement does not appear within the Appellants' argument, and is not consistent with the Appellants' argument. Appellants have clearly stated that, for the purposes of 35 USC

§112, first paragraph, the description of the present application has sufficiently demonstrated that the Applicant was in possession of both a parallel and a substantially parallel embodiment at the time of filing the present application. For example, "Therefore, even if the suggestion of the Final to utilize a dictionary to define substantially parallel is accepted, the term would mean 'to a great extent or degree parallel', which combined with a parallel drawing in FIG. 2, and a slightly off-parallel drawing in FIG. 3, would be understood by one of skill in the art to include an embodiment that was actually parallel." See Appeal Brief, second full paragraph, page 9.

**The Answer on pages 5-6, carryover paragraph, states:**

The examiner disagreed because the structural limitations of the two claimed limitation language would be quite different. According to the Merriam-Webster's collegiate dictionary, 10<sup>th</sup> edition, the definition of "substantial" is described as "being largely but not wholly that which is specified." The structural limitation of "the sidewall portion includes the sharp edge extended substantially parallel to the center line does not require that the sidewall and the centerline should be parallel. Thus, the meaning of "substantially parallel" is that the sidewall is parallel to the centerline with a margin for manufacturing tolerances, i.e. it could be off by a couple of degrees one way or the other. By changing the limitation to "parallel", there would be no manufacturing tolerances.

Appellants re-iterate all arguments from the Appeal Brief regarding the dictionary definition offered in the Answer. The Answer has selected the fifth definition of a different, but related, word (i.e. "substantial" rather than "substantially") to support the proposition that a "substantially parallel" feature excludes the actually parallel feature.

Appellants herein address the newly presented argument in the Answer about manufacturing tolerances. The Answer offers no support for the conclusory statement that "the meaning of 'substantially parallel' is that the sidewall is parallel to the centerline with a margin for manufacturing tolerances, i.e. it could be off by a couple of degrees one way or the other." First, the meaning of the term "substantially parallel" is whatever the term means to one of skill in the art in light of the Applicant's disclosure, and the Answer presents no evidence that "parallel to the centerline with a margin for manufacturing tolerances" is that meaning. Second, no evidence is presented about manufacturing tolerances except a conclusory statement that "i.e. it could be off by a couple of degrees." It is the understanding of the Appellants that the proposed manufacturing tolerance is far greater than actual modern manufacturing tolerances depending upon the manufacturing method and equipment utilized in the piston bowl manufacture, although Appellants have no opportunity to present evidence to this newly presented argument in the Answer.

As stated preceding, the statement "the meaning of 'substantially parallel' is that the sidewall is parallel to the centerline with a margin for manufacturing tolerances, i.e. it could be off by a couple of degrees one way or the other" is presented in the Answer for the first time and without any evidence. Appellants therefore respectfully request that this statement and any other statements in the Answer relying thereupon be disregarded by the Board.

**The Answer on pages 6-7, carryover paragraph, states:**

The appellants further argue that the interpretation of features from the drawings was fully compliance with the decision of In Re Wright. In re Wright stated that length measurements and size ratios cannot be utilized from drawings that are not indicated to be drawings made to scale. In the present case, parallelism is a geometric construct and not a sizing construct. The examiner disagrees with the appellants' interpretation about In Re Wright decision because the decision of In Re Wright is not limited to the measurement of the length or size in the features if the drawings are not to scale. Thus, any measurements include geometric construction, angles, length and size, from not scaled drawings should be futile.

The question presented herein is whether, at least in some circumstances, information about geometric constructions can be determined from drawings. The statement in the Answer that "In Re Wright is not limited to the measurement of the length or size in the features if the drawings are not to scale" is not responsive to the question. Even if In Re Wright is silent on the geometric construction issue, that silence is not support for the proposition that geometric constructions cannot be determined from drawings that are not to scale. However, In Re Wright is not silent on the geometric construction issue, and in fact In Re Wright explicitly compared geometric constructions in un-scaled drawings.

An issue presented within In Re Wright was whether a reference "Bauer" or "Pennie" was a most closely associated reference to the application at issue in In Re Wright. The U.S. Court of Customs and Patent Appeals stated: "The record clearly demonstrates that appellant is relying upon his squarecut croze as the basis for the showing of unexpected results. Thus, a whiskey barrel with Pennie's croze – not

Baure's croze – is the nearest prior art, because Pennie most nearly shows appellant's square-cut croze". See *In Re Wright*, 193 USPQ 332, 336 (C.C.P.A. 1977). Therefore, *In Re Wright* explicitly used the appearance of unscaled drawings in making determinations about geometric constructions. Certain geometric constructions, such as square angles (as in *In Re Wright*) and parallel (or substantially parallel) lines are not vulnerable to mis-interpretation due to re-scaling issues. Therefore, as in *In Re Wright*, some determinations can be made from un-scaled drawings about such geometric constructions. In the present case, all embodiments are illustrated as parallel or substantially parallel, and the text of the specification plus the original claims describe substantial parallelism. The sidewalls in the illustrated embodiments of Gaiser are deviated significantly from parallel. For the reasons described, determinations of geometric constructions including parallelism from the figures, in the present circumstances, is fully compliant with *In Re Wright*.

**The Answer on page 7, first full paragraph, states:**

Appellants argue that there is no suggestion to combine the Hoffmann reference with the Gaiser reference because the Gaiser reference would not be operable without oil gallery. The examiner disagrees because there is no requirement that a motivation to make the modification must be expressly articulated. The test for obviousness on a combination of references is what the secondary reference would teach one skilled in the art and not whether its structure could be bodily substitute in the basic reference structure. In *re Richman*, 57 CCPA 1060, 165 USPQ 509 (1970). Both references are related to a piston structures for diesel engine and having a lubricant system. The purpose of providing the oil gallery in the piston in Gaiser is to cool the piston, effectively. With or

without providing an oil gallery in the piston for cooling the piston, both pistons would be operable.

Appellants note that, while there may be "no requirement that a motivation to make the modification [ ] be expressly articulated," the law is well settled that "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then *there is no suggestion or motivation* to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)", emphasis added, quoted from MPEP § 2143.01 (V). In the present case, Gaiser is a "closed gallery piston having con rod lubrication." See Gaiser, at Title, Abstract, claim 1, and every described embodiment therein. The Answer notes that Gaiser is "related to a piston structur[e] for a diesel engine and having a lubricant system." The Answer fails to note that the oil gallery is part of the lubricant system. In the description of Gaiser, oil travels through the oil holes 80 into the gallery 42. See Gaiser, col. 3, line 63 to col. 4, line 1. The oil then travels through the passages 86 from the oil gallery to the inner faces 48 of the pin bosses 44, and/or to the recesses 88 to lubricate the pin bores 58. See Gaiser, col. 4, line 56 to col. 5, line 20. Without the oil gallery 42 in Gaiser, the connecting rod is not lubricated, Gaiser is thereby modified in an unsatisfactory manner for its intended purpose, and therefore "there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), quoted from MPEP § 2143.01 (V).

## Conclusion

Appellants respectfully request consideration of the present application in view of the preceding comments and the Appeal Brief.

Respectfully submitted,

/Steve Wills/

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